

CLAIMS

1. A method of sealing mini-tubes within an optical fibre duct using a
5 compression-expandable plug, the method comprising providing lateral expansion of an elastomeric gasket of the compression-expandable plug to seal around the mini-tubes, the mini-tubes containing optical fibres.
2. A compression-expandable plug comprising:
10 an elastomeric gasket having longitudinal passages configured to be positioned around optical-fibre-containing mini-tubes in an optical fibre duct; and
means for longitudinally compressing the gasket thereby laterally expanding it to exert sealing pressure around the mini-tubes and between the mini-tubes and the duct.
- 15 3. The plug of Claim 2, further comprising means for limiting the longitudinal compression applied to the gasket to limit the sealing pressure to a level selected to limit damage to the optical fibres.
4. The plug of Claim 3, wherein the means for longitudinally compressing
20 comprises a nut and a bolt and wherein the means for limiting the longitudinal compression comprises a blind-ended thread in the nut.
5. The plug of Claim 2, wherein the passages of the gasket include longitudinal
25 slits extending laterally to an exterior surface of the gasket configured to allow lateral insertion of the mini-tubes into the passages.
6. The plug of Claim 5, wherein the means for longitudinally compressing has
an associated tightening orientation and wherein the slits are sloped and/or curved in an
orientation opposite to the tightening orientation.
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7. The plug of Claim 6, wherein the gasket is marked to indicate an end of the
gasket to insert first into the duct to orient the slits in the orientation opposite to the
tightening orientation.

8. The plug of Claim 7 wherein the orientation opposite to the tightening orientation is anti-clockwise as viewed from outside the end of the duct into which the gasket is inserted.

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9. A sealing device for sealing an opening in an object between the object and at least one elongate article extending through the opening, the sealing device comprising:

a pair of compression plates;

at least two deformable sealing elements spaced apart from each other between the

10 plates;

a compression device arranged to compress the sealing elements by moving the plates towards each other to expand the sealing elements in a lateral direction with respect to a direction of movement of the plates such that each sealing element makes a respective sealing contact with the object and/or elongate article; and

15 wherein the sealing elements are spaced apart from each other in the lateral direction, and a first of the sealing elements is located between the compression plates along a lateral periphery of the plates.

20 10. A kit of parts for forming the sealing device of Claim 9, including the pair of compression plates, the at least two deformable sealing elements and the compression device.

25 11. The sealing device of Claim 9, wherein each compression plate includes at least one aperture, the apertures of the plates being in alignment and together providing a channel through the sealing device to allow an elongate article to extend through the device.

30 12. The sealing device of Claim 11, further comprising at least one second sealing element located between the plates around the channel and configured to make a sealing contact with an elongate article extending through the channel.

13. The sealing device of Claim 12, further comprising a plurality of said channels, each of which has a respective second sealing element located therearound.

14. The sealing device of Claim 9, wherein at least one of the sealing elements comprises a tube.

15. The sealing device of Claim 14, wherein the tube has a length at least as great
5 as its external diameter.

16. The sealing device of Claim 9, wherein at least one of the sealing elements comprises at least one O-ring.

10 17. The sealing device of Claim 16, wherein at least one of the sealing elements comprises a plurality of O-rings.

18. The sealing device of Claim 9, further comprising a support located between the compression plates and wherein the sealing elements are attached to the support.
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19. The sealing device of Claim 18, wherein the support and the sealing elements are formed as a single piece.

20. The sealing device of Claim 18, wherein the support comprises a sheet and/or
20 a framework.

21. The sealing device of Claim 18, wherein the support is not compressed when the sealing elements are compressed by the compression plates.

25 22. The sealing device of Claim 21, wherein the sealing elements and the support have relative thicknesses in the direction of movement of the compression plates such that the support is not compressed when the sealing elements are compressed by the plates.

23. The sealing device of Claim 9, wherein each sealing element is blocked by a
30 removable blocking part that may be removed to allow an elongate article to extend through the sealing element.

24. The sealing device of Claim 23, wherein each blocking part is elongate and extends through at least one of the compression plates so that it may be removed from its respective sealing element without removing the sealing element from between the plates.

5 25. The sealing device of Claim 9, wherein each aperture of at least one of the compression plates may be blocked by a removable blocking piece that may be removed to allow an elongate article to extend through the aperture.

10 26. The sealing device of Claim 9, wherein the compression plates are movable towards each other by means of the compression device such that when the plates are in a closest to each other position the sealing elements are laterally expanded by a preset amount.

15 27. The sealing device of Claim 9, wherein the sealing device includes an indicator that indicates when the compression plates have been moved towards each other by a predetermined distance to provide a preset lateral expansion of the sealing elements.

20 28. The sealing device of Claim 27, further comprising a support located between the compression plates and wherein the sealing elements are attached to the support and wherein the indicator comprises at least one indicator member arranged to extend from one of the compression plates through the other compression plate and/or from the support through one of the compression plates, such that when the relative movement of the plates by the predetermined distance has been achieved, the indicator member extends through the compression plate.

25 29. The sealing device of Claim 9, wherein the sealing elements comprise a polymeric material.

30 30. An object including the sealing device of Claim 9, wherein the object comprises a housing that is attachable to an end of a duct to seal the duct.